A Unique Combination: The IBNAM Core Facilities

A normal day at the IBNAM cleanroom closely resembles a scene from a futuristic, science-fiction movie. Researchers glide along the tiled floors in white suits that cover their bodies from head to toe, complete with gloves, goggles, boots, and hoods. The room is bathed in an eerie, yellow light, which illuminates the microfabrication equipment lining the stark walls. But one doesn’t need to venture all the way to a Hollywood movie set to observe this scene. IBNAM — the Institute for Bionanotechnology in Medicine — is located on the 11th floor of the Lurie Cancer Center on the Chicago campus.

The cleanroom along with the chemistry core make up IBNAM’s shared facilities, which work in conjunction to support projects that focus on translational technologies for regenerative medicine and targeted therapeutics. Someday these therapies may be used to repair damaged heart, brain, spinal cord, and eye tissue. IBNAM Director Samuel I. Stupp, materials science and engineering and chemistry, says having these two cores under the same roof provides a unique combination.

“The cores at IBNAM were developed over the course of a few years and specifically designed around the research targets of the faculty here,” Stupp says. “So they are flexible cores that are tailored for the research here and will continue to be enhanced as the research programs develop.”

The strange white suits are typical to any cleanroom facility where the equipment is sensitive to environmental contamination. But Stupp says what is atypical about the cleanroom is that it houses equipment at the crossroads of microfabrication and advanced cell biology. This attracts faculty from several units across Weinberg, McCormick, and Feinberg.

“Everyone here has different backgrounds, from chemistry to materials science to the biological sciences,” says Josh Goldberger, a postdoc who manages the cleanroom facilities and works on spinal cord regeneration. “Having a central facility that combines equipment traditionally used in these other disciplines opens up new avenues for research and gives us a much broader perspective than we would have in one department.”

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“A lot of medical departments here use peptides in their work, and we are able to custom make those here,” says Andrew Cheetham, scientific director of the chemistry core. “We plan to expand to make more therapeutic peptides, so researchers won’t have to visit outside medical sources for those.”

The cleanroom, which opened at the beginning of summer, is continuing to grow in users. And, while Stupp says it is not yet fully equipped, he says they are working to acquire instruments gradually.

For more information about the IBNAM core facilities, please visit the website by clicking here.